

[17] *Dunn*: Defendants Granted Extensions to Respond to the Complaint

Plaintiffs' attorneys have extended the date for defendants to respond to the complaint. Responses are now due August 12, 1993.

Plaintiffs in this case contend that Mildred Wiley was a nonsmoker who died of lung cancer as a result of her exposure to environmental tobacco smoke at her place of employment (a Veteran's Administration hospital) for seventeen years. Her husband, Philip Wiley, is also asserting a loss of consortium claim. Defendants in the case are purported to be each of the six major U.S. cigarette manufacturers, parent companies of three of the manufacturers, The Tobacco Institute, and the Council for Tobacco Research. *Dunn, et al. v. RJR Nabisco Holdings Corporation, et al.* (Superior Court, Delaware County, Indiana) (filed May 28, 1993).

[18] *Voth*: Motion to Dismiss Filed

On June 14, 1993, Brown & Williamson filed a motion to dismiss the complaint based on plaintiff's failure to state a claim. On June 11, R.J. Reynolds and Forsyth Tobacco Products filed a joint answer to the complaint.

Frank Voth, who is incarcerated in the Oregon State Penitentiary, alleges that his civil rights have been violated as a result of his exposure to ETS. He claims he has "incurred permanent health damage and is at risk of death" as a result of such exposure. Defendants in *Voth* are Forsyth Tobacco Products, R.J. Reynolds and Brown & Williamson. *Voth v. Forsyth Tobacco Products, et al.* (U.S. District Court, Oregon) (filed April 27, 1993).

ETS/IAQ LITIGATION NOT INVOLVING
CIGARETTE MANUFACTURERS

PRISONER CASE

[19] Special Report: *Helling v. McKinney*, 1993 WL 209628 (U.S. Supreme Court) (decided June 18, 1993)

In a 7-2 opinion, the U.S. Supreme Court gave inmate William McKinney an opportunity to try to prove that

Nevada prison authorities have violated the Eighth Amendment to the U.S. Constitution by exposing him to levels of ETS that pose an unreasonable risk to his future health, but the Court made it clear that his burden of proof will be extremely heavy. Further, the Court recognized the official position of the United States Government, as reflected in the *amicus curiae* arguments of the Solicitor General, (i) "that the harm to any particular individual from exposure to ETS is speculative" and (ii) "that exposure to ETS is not contrary to current standards of decency."

The Court expressed no opinion on whether ETS exposure in fact poses a risk of harm. In the end, the Court simply ruled that McKinney's lawsuit could not be summarily dismissed at a preliminary stage with no chance to prove his claim. "We cannot rule at this juncture that it will be impossible" for McKinney to make his claim, the Court said.

On remand, McKinney must prove not only the objective and subjective elements necessary to find an Eighth Amendment violation, but he also must prove that he is entitled to the specific remedy of an injunction. In order to prevail, McKinney must show four things. First, that he is currently being exposed to "unreasonably high levels of ETS." Second, that the exposure subjects him to "unreasonable risk with respect to his future health." Third, that the risk he complains of is "so grave that it violates contemporary standards of decency to expose anyone unwillingly to such a risk." And fourth, that the prison authorities' current attitudes and conduct amount to deliberate indifference to the risk. The Court said "the realities of prison administration" can be taken into account in determining whether prison officials are acting with deliberate indifference toward McKinney.

The Supreme Court emphasized that a formal smoking policy is now in effect in the Nevada State Prisons and noted that the policy may make it impossible for McKinney to prove at least two of the required elements of his case: (1) that he is now being exposed to an unreasonable risk to his future health; and (2) that prison authorities are acting with deliberate indifference to the alleged health effects of ETS. "In this respect we note that at oral argument McKinney's counsel was of the view that depending on how the new policy was administered, it could be very difficult to demonstrate that prison authorities are ignoring the possible dangers posed by exposure to ETS," the Court said.

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Justice White delivered the Court's opinion, which was joined by Justices Rehnquist, Blackmun, Stevens, O'Connor, Kennedy and Souter. Justice Thomas wrote a dissenting opinion, which was joined by Justice Scalia. Justice Thomas said he would dismiss McKinney's claims as a matter of law and would "reject the claim that exposure to the risk of injury can violate the Eighth Amendment."

The Office of the Solicitor General submitted a brief and participated in oral argument in this case as *amicus curiae* supporting the Nevada prison officials. In characterizing the position taken by the U.S. Government in its arguments, Justice White used these words: "[T]he United States submits that the harm to any particular individual from exposure to ETS is speculative, that the risk is not sufficiently grave to implicate a 'serious medical need,' and that exposure to ETS is not contrary to current standards of decency."

WORKPLACE: COLLECTIVE BARGAINING

- [20] *In the matter of Tyndall Air Force Base, Florida and Local 3240, American Federal of Government Employees, AFL-CIO*, 1993 WL 184118 (Federal Service Impasses Panel) (decided May 25, 1993)

A federal arbitration panel has determined that an employer may impose a smoking ban at its Main Exchange facilities as long as it offers smoking cessation classes to its employees and designates an outdoor smoking area that is reasonably accessible to employees and provides a degree of protection from the elements. The matter came before the panel due to a negotiation impasse, and the panel decided to resolve the issue on the basis of written submissions from the parties. The union had asked for employee polling and designated indoor smoking areas.

The panel approved a modified version of the employer's proposal on the basis of "the overwhelming scientific evidence concerning the adverse impact of exposure to second-hand smoke." The panel further asserted, "a ban on indoor smoking is necessary to enhance the health of all individuals at the Main Exchange."

WORKPLACE: IAQ/SICK BUILDING SYNDROME

- [21] *Weekley v. Industrial Commission*, 1993 Ill. App. LEXIS 866 (Second District Appellate Court, Illinois, Industrial Commission Division) (decided June 9, 1993)

The Appellate Court of Illinois has denied workers' compensation benefits to a woman who claimed that an office remodeling project caused her to suffer hypersensitivity to fumes and odors. After reviewing the evidence presented in the case, the court determined that the claimant, an executive secretary, had failed to establish (i) any connection between her symptomatology and the materials used in the remodeling project; (ii) any type of risk in her work environment greater than that to which the general public is exposed; or (iii) that her condition resulted either from the remodeling project or the general office environment. According to the court, medical records showed that many of the claimant's complaints predated her employment. The court also rejected the claimant's argument that the Industrial Commission improperly excluded from evidence publications about sick building syndrome.

LEGAL ISSUES AND DEVELOPMENTS

- [22] *Special Report: Washington Court Denies Reimbursement of Former Smoker's Alleged Quitting Expenses*

On June 22, 1993, a small claims court in Seattle denied a former smoker's claim for reimbursement of the expenses he allegedly incurred in quitting smoking. The court ruled that the statute of limitations for the case expired before the claim was filed.

The plaintiff, Alfred J. Deskiewicz, Jr., filed the case in December 1992 against Philip Morris Incorporated. Deskiewicz claimed he began smoking Marlboro in 1959 at age 17 because he was enticed by Philip Morris' advertisements. He sought recovery of approximately \$1,153 to enable him to stop smoking due to his alleged addiction to Marlboro. He sought \$343.50 to compensate him for the cost of doctor's visits to help him quit, \$271.95 for the cost of nicotine patches,

\$189.99 to reimburse him for the money he spent on cigarettes from the time he began trying to quit smoking until he finally stopped, and \$349.00 for a fifteen-month health club membership, which he contended he needed after quitting.

The case was tried to Judge Linda Jacke earlier this month. Judge Jacke held that the statute of limitations for Deskiewicz's claim had expired because he had known as early as the 1970s that he had a potential claim against Philip Morris. That was when he tried twice, unsuccessfully, to stop smoking.

Losing parties in Washington small claims court cases who file a timely request are entitled to a new trial in the Circuit Court, Washington's court of general jurisdiction.

[23] "Smoke Alarm," E. Hopkins, *Mirabella*, July 1993

This article, written by an alleged asthmatic with an acknowledged antismoking bias, examines a number of ETS-related issues including workplace smoking policies, smoking disputes in child custody cases, and antismoking legislation. The author characterizes ETS as "extremely hazardous" and cites the EPA Risk Assessment on ETS to support her claims. According to this article, divorce lawyers believe that the ETS risk assessment will "substantially influence the outcome of many future custody suits." Richard Daynard of the Tobacco Products Liability Project and John Banzhaf of ASH are quoted in the article which concludes that "the days of smoking rights are numbered . . . [as] nonsmoking activists are getting mad and even."

OTHER DEVELOPMENTS

[24] Michigan Malls Rely Upon EPA Risk Assessment to Support Smoking Ban

According to a press report, five shopping centers in Southwest Michigan have adopted a smoking ban in all public and common areas, effective September 1, 1993. A spokesperson for Shopping Centers of Southwest Michigan reportedly cited the EPA Risk Assessment on ETS to support the ban. The new policy will apparently not affect the interior of individual stores and restaurants. See *PR Newswire*, June 15, 1993.

[25] Kansas City Area Joins Debate Over Smoking in Public Places

A citizens advisory council has reportedly asked Overland Park, Kansas, officials to consider making the city the first in the metropolitan Kansas City area to ban smoking in all public places including restaurants and hotels. The matter will apparently be discussed during a public meeting on July 7.

Tourism officials and the Missouri Restaurant Association in Kansas City are already reportedly opposed to the idea, and a local restaurant which tried to adopt a smoking ban in April was forced to rescind the ban following a "vicious backlash" from smoking customers. According to hotel and restaurant members of Overland Park's Chamber of Commerce, local businesses already set aside space for nonsmokers based on market demand. See *Kansas City Star*, June 17, 1993.

[26] Smoking Cessation Program Aims to Create Smoke-free Environment

Lederle Laboratories is reportedly providing 250 adult smokers in Paterson, New Jersey, with its ProStep nicotine transdermal system free of charge as part of a program to eliminate purported smoking-related health hazards for smokers and their families. Counseling and behavioral modification will also be made available as part of the program. A professor of clinical psychiatry at a local medical university which is running the program cited the EPA Risk Assessment on ETS as "conclusive evidence of the harmful effects of both active and passive cigarette smoking." See *PR Newswire*, June 8, 1993.

[27] World Bank Employees Vote to Ban Smoking

According to a press report, the 6,000 employees at the World Bank's headquarters in Washington, D.C., have voted to ban smoking in the building. The vote has apparently caused consternation among some of the bank's directors who smoke. See *The Guardian*, June 9, 1993.

[28] Los Angeles County High School Speech Contest Asks "Should Smoking be Banned in Public Places?"

In response to the EPA Risk Assessment on ETS, the Los Angeles County Tobacco Control Program, in conjunction with the Los Angeles Unified School

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District sponsored a high school speech contest. The topic, "Should Smoking be Banned in Public Places?", was chosen to encourage students to learn more about public health issues. Most participants concluded that smoking should be banned in public places, citing the findings of the ETS risk assessment. See *PR Newswire*, June 7, 1993.

[29] AMA Supports Legislation Banning Tobacco

The American Medical Association (AMA), at its annual meeting, adopted a resolution to support legislation that would prohibit smoking in prisons and jails. The 435 delegates also approved measures supporting federal legislation for smoke-free schools and reaffirmed its opposition to tobacco sales from vending machines. Also formalized was a policy to reject revenue from tobacco companies, but not necessarily from the companies' non-tobacco subsidiaries. See *Associated Press*, June 17, 1993.

MEDIA COVERAGE

[30] "Magic Carpets," T.W. Orme, Ph.D., *Priorities*, Winter 1993

This article discusses the attention that carpet emissions have been getting from the press and Congress, and dismisses the Anderson study as "junk science at its worst." The author, a representative of the American Council on Science and Health, observes that Anderson does not follow the government's Good Laboratory Practices Guidelines and has not published in peer reviewed journals. Dr. Orme expresses his concern that the Senate committee considering Anderson's testimony in October 1992, "preempted the role of scientists in scientific review [and] was unqualified to ask the appropriate questions."

The article also discusses the controversy surrounding claims of "multiple chemical sensitivity" and states, "A conscientious scientist reading the current literature on MCS comes away more confused than enlightened by it. Is MCS a political movement, a religion or a disease?" Apparently, a woman from Vermont who claims that she and her family contracted MCS from new carpeting has received treatment that has been suggested as a means of spiritual renewal but is not standard medical procedure.

► EPA fails to duplicate Anderson's findings, item 2.

[31] "Times Just Says No to Tobacco Advertising — Evidence of Danger 'Overwhelming,'" S. Wieland Nogaki and H. Gupta, *The Seattle Times*, June 14, 1993

Citing recent evidence regarding the purported dangers of ETS exposure, as well as "growing medical evidence on the dangers of smoking," the publisher of *The Seattle Times* has reportedly decided to cease accepting advertisements for tobacco products. The ban will take effect when existing contracts expire by the end of the year and will apparently result in lost revenues of at least \$120,000 to \$150,000. The Tobacco Institute (TI) reportedly criticized the decision as an attack on the First Amendment. According to a TI spokesperson who is quoted in the article, "I'm astonished that a newspaper that I imagine would embrace the First Amendment would selectively deny space to an advertiser for a legal product just on the basis that a certain segment of the community disagrees with the message. It sets a disturbing trend."

[32] "Health Agency Investigates Airplanes and TB Infections," M. Tolchin, *The New York Times*, June 21, 1993

This article discusses Federal health officials concerns that airplane passengers with tuberculosis may be infecting fellow passengers on long flights. Officials seek to determine whether the recirculation of air in planes would allow the transmission of tuberculosis, a bacterial disease that is spread through the air. Officials say data is still being collected and they declined to disclose any preliminary findings.

SCIENTIFIC/TECHNICAL ITEMS

LUNG CANCER

[33] "Meta-analysis of Epidemiological Studies of Carcinogenesis," J. Peto. In: *Mechanisms of Carcinogenesis in Risk Identification*. H. Vainio, P.N. Magee, D.B. McGregor, and A.J. McMichael (eds.). Lyon, International Agency for Research on Cancer, 571-577, 1992 [See Appendix A]

This article discusses characteristics of epidemiologic studies with respect to the validity of meta-analysis in

assessing those studies. The author uses as an example the meta-analyses that have been conducted on the epidemiologic studies of spousal smoking and lung cancer. The author notes that "there are valid grounds for suspecting that the observed effects of passive smoking on lung cancer may be partly, or even entirely, due to bias."

RESPIRATORY DISEASES AND CONDITIONS — CHILDREN

[34] "Snoring, Sleep Disturbance, and Behaviour in 4-5 Year Olds"

N.J. Ali, D.J. Pitson, and J.R. Stradling, *Archives of Disease in Childhood* 68: 360-366, 1993 [See Appendix A]

The authors of this paper studied children deemed to be at high risk for sleep and breathing disorders. They report that maternal but not paternal smoking was associated with the high risk group, and that those children were thought to be more hyperactive and inattentive by both their parents and their teachers.

[35] "The Relationship of Nasal Disorders to Lower Respiratory Tract Symptoms and Illness in a Random Sample of Children," M.B. Barr, S.T. Weiss, M.R. Segal, I.B. Tager, and F.E. Speizer, *Pediatric Pulmonology* 14: 91-94, 1992 [See Appendix A]

This study examined maternal smoking with respect to children's nasal symptoms, and also studied the possible relationship between nasal disorders and chronic lower respiratory symptoms. The authors report that frequent colds and sinus trouble were "highly associated with chronic lower respiratory symptoms." Statistically significant odds ratios for both colds and sinus trouble are reported for maternal smoking, which is also described as a "significant predictor" of lower respiratory symptoms.

[36] "Increased Influence of Passive Smoking on Hospitalization for Respiratory Disease in Low Birthweight Infants," Y. Chen, S.L. Horne, and J.A. Dosman, *American Review of Respiratory Disease* 147(4 Part 2): A213, 1993 [See Appendix A]

This abstract reports on a comparison of the "risk and incidence" of hospitalization for respiratory disease

among infants of low and normal birthweight reportedly exposed to ETS in the home. The authors conclude that low birthweight infants from households where there was smoking were more likely to be hospitalized for respiratory illness than were those of normal birthweight.

[37] "Effects of Early Vs. Late Environmental Tobacco Smoke Exposure on Pulmonary Function in Children," J. Cunningham, D.W. Dockery, and F.E. Speizer, *American Review of Respiratory Disease* 147(4 Part 2): A213, 1993 [See Appendix A]

Based on data from a cohort of 8,970 children in North America, the authors report that maternal smoking during pregnancy was significantly associated with measures of reduced lung function in children. They suggest that this exposure "may explain a significant part of the association of ETS exposure and reduced pulmonary function in later childhood."

[38] "Parental Smoking and Respiratory Problems in Childhood," J.-A. Evans and J. Golding. In: *Effects of Smoking on the Fetus, Neonate and Child*. D. Poswillo and E. Alberman (eds.). Oxford, Oxford University Press, 121-137, 1992 [See Appendix A]

The authors of this chapter report on new analyses of data from the 1970 British Births Cohort. These analyses investigate maternal smoking during pregnancy and after the child's birth with respect to several respiratory end-points. The authors claim that maternal smoking during pregnancy is associated with wheezing, bronchitis and pneumonia in the child, and that maternal smoking during childhood is associated with snoring/mouth breathing, ear discharge and possibly chronic cough.

[39] "Eight-months Incidence of Acute Respiratory Infections and Involuntary Smoking in Adolescents," D.B. Teculescu, E. Rebstock, Q.T. Pham, A.D. Corlan, and J.-P. Deschamps, *American Review of Respiratory Disease* 147(4 Part 2): A134, 1993 [See Appendix A]

French researchers report in this abstract on a study on the incidence of acute respiratory infections (e.g., bronchitis, common cold) in adolescents aged ten to 16. The authors report statistically significant elevated

risks for acute respiratory infections when either one parent or both parents were smokers.

RESPIRATORY DISEASES AND CONDITIONS — ADULTS

- [40] "Sidestream Tobacco Smoke (SS) Alters Regional Nasal Mucociliary Clearance: Comparison of Sensitive and Nonsensitive Subjects," J. Nadarajah, R. Bascom, T.K. Fitzgerald, M. Bickert, K. Cheng, T. Permutt, and D. Swift, *American Review of Respiratory Disease* 147(4 Part 2): A216, 1993 [See Appendix A]

In this experiment, "ETS-sensitive" and "nonsensitive" subjects were exposed to sidestream smoke followed by challenge with an aerosol. Nasal clearance was measured in both groups; 50 percent of the "sensitive" subjects reportedly exhibited an inhibition of clearance after smoke exposure.

OTHER HEALTH ISSUES

- [41] "Antenatal Smoking, Postnatal Passive Smoking, and the Sudden Infant Death Syndrome," J. Nicholl and A. O'Cathain. In: *Effects of Smoking on the Fetus, Neonate and Child*. D. Poswillo and E. Alberman (eds.). Oxford, Oxford University Press, 138-149, 1992 [See Appendix A]

Using data collected in the United Kingdom, the authors of this study attempt "to unravel the roles of maternal smoking during pregnancy and postnatal passive smoking in SIDS deaths." They report statistically significant risk estimates for maternal smoking and for partner's smoking (a surrogate for ETS exposure).

ETS EXPOSURE AND MONITORING

- [42] "Passive Smoke Exposure During Pregnancy: A Rodent Model," D.M. Schilling, M.R. Reed, R.M. Booze, and C.F. Mactutus, *Teratology* 47: 462, 1993 [See Appendix A]

This abstract describes the experimental exposure of female rats to sidestream and mainstream smoke,

beginning before pregnancy and continuing until litters were born. The authors claim that the offspring of rats exposed to sidestream smoke as a surrogate for ETS exhibited decreased birthweight, slower growth, and pathologic changes in the brain. These endpoints were attributed by the authors to decreased oxygen levels during the prenatal period.

INDOOR AIR QUALITY

- [43] "Indoor Air Quality and Environmental Tobacco Smoke: Concentration and Exposure," L.C. Holcomb, *Environment International* 19: 9-40, 1993 [See Appendix A]

Based on a review of literature on IAQ and ETS published since 1980, the author of this study suggests that "ETS has only a minor impact on IAQ." Moreover, he presents estimates of retained doses of ETS particles that range from 3 to 40 milligrams per year, a range which he suggests "does not seem to support" the summary relative risks calculated using meta-analysis.

SMOKING POLICIES AND RELATED ISSUES

- [44] "Restrictions on Smoking: Changes in Knowledge, Attitudes and Predicted Behaviour in Metropolitan Toronto from 1983 to 1988," L.L. Pederson, S.B. Bull, M.J. Ashley, and D. Kozma, *Canadian Journal of Public Health* 83(6): 408-412, 1992 [See Appendix A]

Based on the results of two surveys, the authors of this article claim that residents of Metropolitan Toronto showed marked changes in their attitudes about smoking. For instance, the authors report that between 1983 and 1988, Toronto residents began to more strongly favor restrictions on smoking (including complete prohibitions). They also claim that, over the five-year span, residents became "no more knowledgeable about the health effects of smoking and ETS."

IN EUROPE & AROUND THE WORLD

REGULATORY AND LEGISLATIVE MATTERS

AUSTRIA

[45] Agreement Reached by Government Officials on Tobacco Legislation

According to a press report, the health and finance ministers, the chancellor and the director-general of Austria Tabak have reached an agreement on amendments to proposed tobacco legislation. Provisions banning public smoking are reportedly unchanged, but no fines will be imposed for contravening the ban. *See Die Tabak Zeitung*, June 18, 1993.

EUROPEAN COMMUNITY (EC)

[46] EC Commissioner Endorses Workplace Smoking Ban

According to EC Commissioner Vasso Papandreou, the EC is considering "specific measures to limit or to ban smoking at the workplace." Papandreou's remarks reportedly were made in response to a written question to the commission. The workplace directive would apparently require, at a minimum, adequate ventilation and smoke-free restrooms for nonsmokers. *See Safety Management*, May 21, 1993.

HONG KONG

[47] Hong Kong Government Examines Indoor Air Quality

The Hong Kong Government has brought in a team of specialists to clean office air ducts in its 1,208 government buildings. A contractor hired to do the cleaning estimates that up to 20 percent of the 187,000 government workers may be suffering symptoms related to indoor air constituents. A government spokesperson denied that any of the buildings were suffering from sick building syndrome saying, "The cleaning of air ducts is simply part of our scheduled work." *See South China Morning Post*, June 13, 1993.

SINGAPORE

[48] Health Warnings to Change

As of January 1, 1994, labels on cigarette packs will reportedly be required to carry a warning in English stating that "Smoking harms your family." Evidently, the packages will no longer carry the phrase "Government Warning." According to a press report, this will be changed to "Health Warning." *See The Smoking Regulations*, May 29, 1993.

OTHER DEVELOPMENTS

AUSTRALIA

[49] Woodward Predicts Widespread Smoking Bans Within Five Years

Stephen Woodward, spokesperson for the New South Wales Cancer Council, has reportedly predicted that smoking will be banned in almost all indoor public places including bars and restaurants within the next five years. According to Woodward, smoking has already been banned in all commonwealth public service departments, in most hospitals and State health departments, and in businesses such as Telecom, Aust Post, Shell, ICI, CSIRO, BHP, AMP, Westpac, 3M, Price Waterhouse, and IBM. *See Daily Telegraph Mirror*, June 15, 1993. Woodward is also executive director of Australia Action on Smoking and Health (ASH).

EGYPT

[50] Physician Calls for Smoking Ban

A physician has reportedly called on his Arab colleagues to ban smoking in front of patients. According to Dr. Mohammed Basheer Shreim, more than half of Arab physicians smoke at work. *See Al Hayat*, June 4, 1993.

ITALY

[51] Oncology Institute Official Calls for More Research

According to a press report, an official with the European Institute of Oncology in Milan claims that

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there is still a need to quantify the alleged risks of low-level exposure to ETS. He reportedly suggests, however, that there is no need for new evidence to justify the adoption of measures to restrict smoking. *See The Lancet*, June 10, 1993.

SWITZERLAND

[52] Tobacco Industry Launches Press Campaign

The Swiss tobacco industry has launched a press campaign calling for more tolerance and understanding between smokers and nonsmokers. The campaign apparently consists of a series of seven advertisements which will be run in 25 daily and weekly journals covering three linguistic regions of the country. The campaign's slogan is "Better to discuss than to fight." The first advertisement appeared on June 13, 1993, and will run for three weeks.

UNITED KINGDOM

[53] Health Education Authority Targets Workplace Smoking

The Health Education Authority has recently published its strategy for the next five years. Among the Authority's goals is "to create a healthy working environment, including freedom from environmental tobacco smoke." Other targets include reducing purported risks associated with tobacco consumption. *See Safety Management*, May 1993.

[54] Smoking Ban Takes Effect in NHS Facilities

According to press reports, a ban on smoking in all NHS hospitals, offices and canteens, which will apparently affect one million employees, went into effect at the end of May. Evidently, smoking by long-term patients and patients in psychiatric wards may be permitted in limited areas. The director of ASH has been quoted as saying that the rule may be flouted due to the decentralization of authority over individual trust hospitals. Health Minister Dr. Brian Mawhinney reportedly lauded the progress that had been made by NHS in adopting smoking policies "to protect patients, visitors and staff from the health risks of smoking." *See Daily Telegraph*, May 31, 1993.

MEDIA COVERAGE

UNITED KINGDOM

- [55] "By Order: No Smoking In Furness," D. Kermode, *North Western Evening Mail*, May 20, 1993

This article discusses the smoking bans and restrictions that have been adopted by businesses and government entities in Furness. Barrow Town Hall has apparently restricted smoking to a temporary room, and workers at Tesco can only smoke in the restaurant. The British Gas terminal in Barrow will reportedly implement a total ban beginning in January 1994. Penalties for noncompliance, in some cases, include termination from employment. The author notes that some Furness firms have tried to accommodate smokers by creating smoking rooms.

APPENDIX A

The numbers assigned to the following article summaries correspond with the numbers assigned to the synopses of the articles in the text of this Report.

LUNG CANCER

- [33] "Meta-analysis of Epidemiological Studies of Carcinogenesis," J. Peto. In: *Mechanisms of Carcinogenesis in Risk Identification*. H. Vainio, P.N. Magee, D.B. McGregor, and A.J. McMichael (eds.). Lyon, International Agency for Research on Cancer, 571-577, 1992

"A small relative risk based on data from a case-control study constitutes weaker evidence of a causal association than a similar risk observed in cohort studies."

"Few epidemiological studies satisfy the stringent methodological criteria that should ideally be applied."

"Meta-analysis of published studies presents considerable, purely technical difficulties.... Two related but distinct problems in assessing published data are publication bias and the distinction between hypothesis generation and hypothesis testing."

"[M]eta-analysis in which the original data are formally re-analysed involves two further problems."

"It is rarely possible to obtain the data for all relevant studies."

"The exposure of interest will not usually have been categorized in ways that are directly comparable."

"Until the 1980s, epidemiologists were concerned mainly with relative risks that exceeded about 1.5 and were often much higher. Many controversies now centre on much lower risks, a notable example being the effect of 'passive smoking' on lung cancer risk. The pooled data show a statistically significant effect, and all studies are consistent with a relative risk of about 1.3. In view of the many difficulties discussed above, however, it can plausibly be argued that such small effects are beyond the limits of reliable epidemiological inference (particularly for lung cancer, in which the major cause produces large relative risks), as smoking habits may be inaccurately recorded and are correlated with many other social and occupational factors,

including the smoking habits of spouses. a number of spurious associations with relative risks for lung cancer of this order might thus be found in a large enough sample.... In the absence of a strong effect, a significant dose-response effect among exposed individuals may be a prerequisite for drawing the conclusion that epidemiological associations are probably causal. This is of course not a new idea but, until the advent of meta-analysis, few such weak associations achieved statistical significance, and the issue was largely academic."

"A related issue is the effect of adjustment for potential confounders. A weak association which is due entirely to a correlation between the variable of interest and other variables which are inaccurately recorded will be reduced but not eliminated when the other variables are formally adjusted for. A reduction in risk following adjustment provides a useful indication of such a spurious association."

"The difficulties in defining acceptable studies, and the way in which their selection can substantially alter the conclusion of a meta-analysis, is illustrated by the example of passive smoking and lung cancer. As noted above, the US National Research Council pooled all available studies and derived an overall relative risk of 1.34 (95% confidence interval, 1.18-1.53). A subsequent meta-analysis (Fleiss & Gross, 1991) included only the nine studies that were conducted in the USA and derived a pooled relative risk of 1.12 (95% confidence interval, 0.95-1.30). These authors justified their restriction to US studies on three grounds: (i) only the population to which policy decisions will apply should be studied; (ii) types of cigarette and consumption differ from those in other countries and their effects may therefore not be relevant to the US life-style; and (iii) genetic and other life style difference [sic] between the USA and other countries may also invalidate foreign studies as a basis for predicting risks to Americans. As the prime purpose of this meta-analysis was to decide whether or not passive smoking causes lung cancer, all three reasons for excluding non-US studies are illogical unless it is believed that there may well be an effect in other countries but not in the USA. In this instance, the effect of the exclusion of other studies was evidently known in advance, and it is difficult to believe that the authors reached this decision on purely objective grounds. As noted above, there are valid grounds for suspecting that the observed effects of

passive smoking on lung cancer may be partly, or even entirely, due to bias; but to eliminate the observed effect by such post-hoc selection is scientifically dubious."

RESPIRATORY DISEASES AND CONDITIONS —CHILDREN

- [34] "Snoring, Sleep Disturbance, and Behaviour in 4-5 Year Olds" N.J. Ali, D.J. Pitson, and J.R. Stradling, *Archives of Disease in Childhood* 68: 360-366, 1993

"Parents of 996 children aged 4-5 years identified consecutively from the Oxford health visitor register were asked to complete a questionnaire about breathing disorders during sleep. A total of 782 (78.5%) was returned. Ninety five (12.1%) children were reported to snore on most nights. Habitual snoring was significantly associated with daytime sleepiness, restless sleep, and hyperactivity."

"The questionnaire responses were used to select two subgroups, one at high risk of a sleep and breathing disorder and a control group. These children (132 in total) were monitored at home with overnight video recording and oximetry, and had formal behavioural assessment using the Conners scale."

"Seven (7/66) children from the high risk group and none from the control group had obvious sleep disturbance consequent on snoring an upper airway obstruction. Thus our estimate of the prevalence of sleep and breathing disorders in this age group is 7/996 or 0.7%."

"The high risk group had significantly higher nocturnal movement, oxygen saturation dip rates, and overnight pulse rates than the controls. Maternal but not paternal smoking was associated with the high risk group. Parents and teachers thought those in the high risk group were more hyperactive and inattentive than the controls, but only their parents thought them more aggressive."

"Significant sleep and breathing disorders occur in about 0.7% of 4-5 year olds. Children whose parents report snoring and sleep disturbance have objective evidence of sleep disruption and show more behaviour problems than controls."

"Children in the high risk group were significantly more likely to have a mother who smoked. This was indepen-

dent of the effect of social class... The increased risk associated with paternal smoking was not significant."

- [35] "The Relationship of Nasal Disorders to Lower Respiratory Tract Symptoms and Illness in a Random Sample of Children," M.B. Barr, S.T. Weiss, M.R. Segal, I.B. Tager, and F.E. Speizer, *Pediatric Pulmonology* 14: 91-94, 1992

"The goal of this study was to examine the relationship of maternal smoking to nasal symptoms and to determine if nasal disorders had an association with chronic lower respiratory symptoms, independent of maternal smoking."

"Frequent colds were significantly associated with maternal smoking (OR, 3.00; 95% CI, 1.97, 4.58), and so was sinus trouble (OR, 4.73; 95% CI, 1.78, 12.51)."

"We examined the relationship of frequent colds and sinus trouble to the occurrence of lower respiratory tract symptoms. Both indices of nasal disease were highly associated with chronic lower respiratory symptoms independent of other variables, such as age, sex, and maternal smoking."

"The central findings of these analyses were a twofold increase in the odds of lower respiratory symptoms with frequent colds and a fourfold increase in the odds of lower respiratory symptoms with sinus trouble. These odds were independent of the observed effects of maternal smoking and other variables such as age and sex. Although maternal smoking was linked to frequent colds, control for maternal smoking did not diminish the association of frequent colds with lower respiratory symptoms. Sinusitis was less influenced by maternal smoking and more strongly associated with lower respiratory symptoms, although the small numbers of subjects provided a less stable measure of the effect of this upper respiratory illness on lower respiratory symptoms."

"Maternal smoking was—independently of colds or sinus troubles—a significant predictor of lower respiratory symptoms. This finding is in agreement with results reported by others."

"Our analysis demonstrates an association of upper respiratory illness with lower respiratory symptoms... [A]ssociated colds and lower respiratory

symptoms may be dual manifestations of a single common factor. Alternatively, factors such as postnasal drip, nasal obstruction, inadequate lower airway protection, deficient conditioning of inspired air, or reflex changes are all possible casual mechanisms by which nasal disorders could influence lower respiratory events. Further investigation will be necessary to distinguish among these various possibilities."

- [36] "Increased Influence of Passive Smoking on Hospitalization for Respiratory Disease in Low Birthweight Infants," Y. Chen, S.L. Horne, and J.A. Dosman, *American Review of Respiratory Disease* 147(4 Part 2): A213, 1993

"It has been well documented that exposure to environmental tobacco smoke (ETS) increases incidence of respiratory illness and symptoms in young children. Whether low birthweight (LBW) modifies the effect of ETS has not been known."

"This analysis was performed on the combined data from the Jing-An and Chang-Ning epidemiological studies of children's health in Shanghai. All together, the data of 3285 infants from these two studies were used in this analysis. Infants were classified into 3 ETS groups according to the total number of cigarettes smoked daily by household members: none, light (1-19 cigarettes/day) and heavy (20+ cigarettes/day), and 2 birthweight groups: LBW (less than 2500 g) and normal (NBW, 2500 g or above)."

"Both risk and incidence density of hospitalization for respiratory disease during children's first 18 months of life increased with increasing smoking consumption by family members among the LBW infants more rapidly than among the NBW infants. Compared to the NBW infants who were living in nonsmoking families, the odds ratio for first episode of hospitalization for respiratory disease was 1.40 in the NBW infants who were living in light smoking families and 1.61 in those who were living in heavy smoking families. In the LBW infants the odds ratio was 2.91 and 4.48 respectively, after adjustment for study area, sex and feeding by simple logistic regression analysis."

"The influence of passive smoking on hospitalization for respiratory disease is greater in LBW infants than in those with normal birthweight."

- [37] "Effects of Early Vs. Late Environmental Tobacco Smoke Exposure on Pulmonary Function in Children," J. Cunningham, D.W. Dockery, and F.E. Speizer, *American Review of Respiratory Disease* 147(4 Part 2): A213, 1993

"Recent studies have found that passive smoke exposure *in utero* is associated with lower measures of flow in newborns, while earlier studies suggested an association between current maternal smoking and reduced pulmonary function in older children. The relative contributions of perinatal vs. late childhood ETS exposure in children were assessed in a cohort of 8,970 white children aged 8-12 from 22 North American communities. Maternal smoking history was supplied by the child's mother....[R]eported maternal smoking during pregnancy was associated with lower FEV₁, FEF_{25-75%}, and FEF_{25-35%}. No significant difference was found in FVC. Current maternal smoking was also associated with lower FEV₁, FEF_{25-75%} and FEF_{25-35%} but not FVC....[M]aternal smoking during pregnancy remained a highly significant predictor of lower lung function....[T]he effects of perinatal passive smoke exposure on lung function persist through childhood, and may explain a significant part of the association of ETS exposure and reduced pulmonary function in later childhood."

- [38] "Parental Smoking and Respiratory Problems in Childhood," J.-A. Evans and J. Golding. In: *Effects of Smoking on the Fetus, Neonate and Child*. D. Poswillo and E. Alberman (eds.). Oxford, Oxford University Press, 121-137, 1992

"There have been many studies on the possible respiratory effects of exposure to tobacco smoke during childhood. There is a lack of consistency in ages, condition, type of population, and statistical methods used. Nevertheless, the vast majority of studies do find some effects of smoking."

"In many of the above studies there has often been a tendency to over-control. For example, to look at maternal smoking and control for birth weight and gestation, or examine childhood wheezing and control for parental respiratory disease is over-controlling and artificially diminishing any association that may be present."

"[T]he balance of results indicate that it is maternal smoking that is associated with childhood respiratory disorder, none of the studies quoted has information

on both antenatal and postnatal exposure. There is currently only one data set with the information necessary for this analysis: the 1970 British Births Cohort."

"This chapter reports the results of new analyses of these data using a different methodology."

"The results indicate that the effects of passive smoking during the child's life are far less marked for lower respiratory conditions than they are for upper respiratory conditions."

"For wheezing, there was no relationship with postnatal smoking but there was with prenatal smoking, implying that this is the key factor."

"A history of bronchitis and of pneumonia, was very strongly related to maternal smoking during pregnancy, but these mothers also smoke later during the child's life. Nevertheless, the fact that the postnatal smoking effects are much reduced for bronchitis and non-existent for pneumonia indicates that the key factor is maternal smoking during pregnancy."

"This chapter has shown that, as previously reported, there is a strong relationship between maternal smoking and respiratory problems in the child. The bulk of the evidence from the prospective data shows that it is maternal smoking during pregnancy that makes the child particularly vulnerable to subsequent wheezing, bronchitis and pneumonia, but that it is postnatal smoking that makes the child vulnerable to habitual snoring/mouth breathing, ear discharge, and possibly chronic cough."

- [39] "Eight-months Incidence of Acute Respiratory Infections and Involuntary Smoking in Adolescents," D.B. Teculescu, E. Rebstock, Q.T. Pham, A.D. Corlan, and J.-P. Deschamps, *American Review of Respiratory Disease* 147(4 Part 2): A134, 1993

"Involuntary or passive exposure to tobacco smoke is known to alter foetal lung development, to increase frequency and severity of early respiratory infections in infants, to increase the prevalence of respiratory symptoms and alter development of lung function in young children. Does it also influence the susceptibility to acute respiratory infections (ARI) in teenagers? To answer this question we analysed the results of a community-based epidemiological study on a sample

of subjects aged 10 to 16 years . . . Fifty-nine subjects had symptoms or signs of ARI at the moment of the study, and the parents of 82 others gave a positive answer to the question 'Did your child have a bronchitis or common cold during the last 8 weeks?'; the sum represents a 30.6% incidence for the 8 months duration of the survey. The incidence was the same in boys and girls. The incidence increased with parental smoking, being of 27.8, 30.3 and 46.8% for children with zero, one and respectively two parent smokers. Confounders (factors associated with both the exposure and the outcome) were a personal history of otitis, parent education level, use of aerosols at home and number of siblings. After adjustments for confounding factors, the association between ARI incidence and parental smoking remained significant: odds ratios and 95% confidence intervals were 2.03 (1.37-3.02) for one parent smoker, 4.14 (2.79-6.15) for two parent smokers. We conclude that passive exposure to parental tobacco smoke significantly increases susceptibility to respiratory infections, even in adolescents."

RESPIRATORY DISEASES AND CONDITIONS —ADULTS

- [40] "Sidestream Tobacco Smoke (SS) Alters Regional Nasal Mucociliary Clearance: Comparison of Sensitive and Nonsensitive Subjects," J. Nadarajah, R. Bascom, T.K. Fitzgerald, M. Bickert, K. Cheng, T. Permutt, and D. Swift, *American Review of Respiratory Disease* 147(4 Part 2): A216, 1993

"Our previous studies have characterized differential sensitivity to environmental tobacco smoke (ETS) among normal subjects. In this study, we hypothesized that ETS-sensitive subjects (ETS-S) would demonstrate altered mucociliary clearance compared with nonsensitive subjects (ETS-NS) following smoke exposure. Twelve healthy non-smoking subjects were challenged for one hour at rest on two days separated by at least one week to clean air or SS. Fifty minutes post-exposure, an aerosol...was administered to the nose. Regional clearance was measured forth minutes after aerosol administration."

"Three ETS-S subjects demonstrated a marked inhibition of mucociliary clearance after smoke exposure. These data indicate that tobacco smoke enhances

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mucociliary clearance in ETS-NS subjects, but not ETS-S subjects."

OTHER HEALTH ISSUES

- [41] "Antenatal Smoking, Postnatal Passive Smoking, and the Sudden Infant Death Syndrome," J. Nicholl and A. O'Cathain. In: *Effects of Smoking on the Fetus, Neonate and Child*. D. Poswillo and E. Alberman (eds.). Oxford, Oxford University Press, 138-149, 1992

"[A]n attempt is made to unravel the roles of maternal smoking during pregnancy and postnatal passive smoking in SIDS deaths, using data from the UK multicentre study to make the evidence of an association more specific and to examine the causal hypothesis in the light of this evidence."

"The resulting estimate of the independent risk of maternal smoking was 2.13 (95 per cent CI 1.45, 3.13), and of the independent risk associated with the partner's smoking was 1.63 (95 percent CI 1.11, 2.40)."

"As maternal smoking during pregnancy will usually be followed by postnatal smoking, the risk of SIDS associated with maternal antenatal smoking as usually estimated actually represents the risk associated with either antenatal smoking or postnatal smoking or both. On the other hand, smoking by the mother's partner is only likely to increase the risk of SIDS as a result of the consequent postnatal passive smoking of the infant. Consequently, the finding we have presented here—that there is a significant and independent increase in the risk of SIDS associated with the partner's smoking—strongly suggests that postnatal passive smoking does play a role in the risk of SIDS."

"The finding that the risk of SIDS is related to passive postnatal smoking raises the question of whether any part of the frequently identified risk associated with the maternal smoking during pregnancy is due to antenatal maternal smoking, or whether this risk is entirely due to the postnatal smoking that almost invariably follows antenatal smoking."

"With regard to the risk associated with postnatal passive smoking, it is well known both that postnatal passive smoking leads to more infant and childhood morbidity, especially from lower respiratory tract illness, and that SIDS cases commonly have clinical and pathological evidence of respiratory disease. Unfortunately, it is not

clear whether there is any connection between these terminal diseases and the subsequent infant deaths. It may be the case that smoking causes respiratory infections unrelated to the occurrence of SIDS, but also has some other unknown effect, which does contribute to the occurrence of SIDS."

ETS EXPOSURE AND MONITORING

- [42] "Passive Smoke Exposure During Pregnancy: A Rodent Model," D.M. Schilling, M.R. Reed, R.M. Booze, and C.F. Mactutus, *Teratology* 47: 462, 1993

"Only recently has it been appreciated that involuntary passive cigarette smoke exposure of the pregnant woman may have adverse effects on fetal health and development. Accordingly, we initiated a series of studies to assess the effects of involuntary maternal passive smoking on offspring development. Using nose-only exposure young adult female rats received sham-exposure or exposure to sidestream smoke (SS, passive smoke) for 3 weeks prior to mating and throughout gestation. Untreated controls as well as mainstream smoke exposure controls (MS, active smoke) were also included....Neither exposure affected litter size. Reductions in birthweight of 6-7% were noted with SS exposure (1 or 2 cig/day); MS exposure produced a graded reduction. Graded reductions of preweaning growth were also found. Pup brain weight was significantly reduced by prenatal SS or MS exposure; the MS but not SS exposure effect was attributable to persisting body weight deficits. Brain morphometric analyses indicated SS exposure of 1 cig/day selectively decreased hippocampal cell fields whereas 2 cig/day affected the hippocampus as well as the corpus callosum, a more general brain development index. In sum, involuntary SS exposure during pregnancy produced minimal evidence of maternal toxicity, minor birthweight deficits, decreased preweaning growth, and selective brain pathology consistent with prenatal hypoxic conditions."

INDOOR AIR QUALITY

- [43] "Indoor Air Quality and Environmental Tobacco Smoke: Concentration and Exposure," L.C. Holcomb, *Environment International* 19: 9-40, 1993

"This study assesses the literature on indoor air quality and ETS published since 1980. Using the data

collected, it also attempts to determine what levels of substances measured indoors may result from the presence of ETS and calculates some of the doses which may be expected from exposure to ETS."

"The literature search was restricted to work which took place in the U.S. and Canada and was published after 1980. There is important IAQ data being generated in European and other countries. However, potential differences in building age, ventilation types, room sizes and other factors may prevent data from other countries from being comparable to the U.S./Canadian data."

"The following indoor air components were chosen for evaluation: respirable particulates (RSP); carbon monoxide; nicotine; nitrogen dioxide; formaldehyde; benzene; polycyclic aromatic hydrocarbons (PAH); and nitrosamines."

"Based on current literature, it appears that ETS has an effect on the levels of nicotine and respirable particles in an indoor environment. There also is a slight increase in NO_x levels in the presence of ETS. ETS appears to have less effect on the levels of carbon monoxide, formaldehyde, or benzene."

"One can calculate the dose of RSP retained from ETS. This ranges from approximately 3 mg/y for a female exposed only at work to approximately 40 mg/y for a male exposed in all facets of his life. Occupational exposure is only a minor portion of total exposure in most cases. Exposures in one's private life may produce the largest retained dose of ETS particulates."

"Attempts to calculate increased risk or excess mortality from lung cancer and heart disease reportedly resulting from ETS exposure are not uncommon. These calculations, however, rely almost exclusively on epidemiologic studies that have no adequate measure of exposure or dose. Such studies are known to be subject to problems of bias and confounding factors which have not been taken adequately into account."

"One of the paradigms of toxicology is that the magnitude of the dose determines the response. Comparing the dose one may receive from ETS to the magnitude of claimed health effects provides one measure of the accuracy of those claims."

"Other studies that have calculated ETS dosage have reported values similar to those calculated here. They also have found wide discrepancies between the level of

risk calculated by the epidemiology studies and that which can be supported by dosimetric calculations."

"Until the problems of confounding and bias in the epidemiology studies are resolved, dosimetric considerations can be the only independent confirmation of the accuracy of their claims. At this point, it can only be concluded that the estimated dose of ETS one can be expected to receive does not support the health risk claims being made by USEPA (1990) and others."

SMOKING POLICIES AND RELATED ISSUES

- [44] "Restrictions on Smoking: Changes in Knowledge, Attitudes and Predicted Behaviour in Metropolitan Toronto from 1983 to 1988," L.L. Pederson, S.B. Bull, M.J. Ashley, and D. Kozma, *Canadian Journal of Public Health* 83(6): 408-412, 1992

"While population-based changes in knowledge of the health effects of smoking and of environmental tobacco smoke (ETS), and in attitudes toward restrictions on smoking have been investigated to some extent in the United States, only limited data, collected by the tobacco industry, have been published for Canada. Further, the surveys that are reported have not always used the same questions or targeted the same populations, nor have they covered a comprehensive range of items concerning smoking, smokers, ETS, and restrictive policies. We report information on changes in such knowledge, attitudes and behaviour in Metropolitan Toronto between 1983 and 1988. This information comes from two population-based surveys in which identical items and similar data collection procedures were used."

"Knowledge of the health effects of active smoking and ETS did not change between 1983 and 1988. The distributions of smoking by associates revealed that fewer associates were perceived to be smoking in 1988. This was not reflected in the reports of actual smoking status. In addition, in 1988 more individuals reported being always bothered by smoke."

"Between 1983 and 1988, marked changes occurred in the attitudes of the population of Metropolitan Toronto to restrictions on smoking. In 1988, the population consistently favoured more restrictions on smoking, including its complete prohibition, in all settings examined. Further, there was greater support for the prohibition of sales in specific locations, the

prohibition of advertising, differential insurance rates favouring nonsmokers, and higher taxes on cigarettes. These results reveal considerably stronger support for legislated measures than those reported by the tobacco industry. In 1988, more respondents reported being bothered by others' smoking than did their 1983 counterparts, possibly reflecting less tolerance with ETS. In contrast, no statistically significant changes were found in reported knowledge of the health effects of either active smoking or ETS. Self-reported smoking habits did not change, although fewer 1988 respondents reported smoking among their associates. The levels of current smoking obtained were similar to those for the entire population and below those reported by the tobacco industry."

"The 1988 respondents were no more knowledgeable about the health effects of smoking and ETS than were respondents in 1983. The steady growth of information on the adverse effects of smoking and particularly, the rapid growth during the 1980s of knowledge concerning the adverse effect of ETS was not reflected in an increase in health knowledge scores of the 1988 respondents. While this is discouraging, given the health education efforts regarding smoking and ETS that were ongoing, it did not appear to impede marked attitude change."

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